

Serial No. 09/735,005
Docket No. NEC 444
Amendment G under Rule 116

REMARKS

The specification has been amended to include the term "grid shaped trench," and is substantially as discussed in a Telephone Interview with the Examiner held on July 9, 2004. Adequate disclosure for the term "grid-shaped trench" is found on page 7, line 21 through page 8, line 17 of the specification, and in FIG. 5 and FIGS. 8A-8F. The Examiner will note that FIGS. 8A-8F are taken along the X-X and Y-Y lines of FIG. 7, and that the trenches 5 are formed using the photomask of FIG. 5C, thereby implying a grid-shaped trench.

Claim 46 has been canceled, without prejudice. Claim 37 has been amended to correct a typographical error. Claim 47 has been amended to depend from claim 45.

Turning to the Examiner's rejection of claims 42-44, 46 and 47 under 35 USC § 112 as failing to comply the written description requirement and objection to the specification under 35 USC § 132 for introducing new matter, the term "grid shaped trench" has been positively enumerated in the specification, and as noted above, is fully supported by the originally filed specification and claims. Thus, it is believed that the Examiner's objection to the specification and the § 112 rejections have been rendered moot.

Turning to the Examiner's rejection of claim 46 under 35 USC § 112 as indefinite, claim 46 has been canceled. Thus, it is believed the Examiner's rejection of claim 46 has been rendered moot.

Turning to the rejection of claims 37, 39 and 40 under 35 USC § 103 as obvious over Applicant's Admitted Prior Art (APA) in view of Gilbert et al. (U.S. Patent No 5,885,856) and claims 42-47 under 35 USC § 103 as obvious over Gilbert et al. and APA, the Examiner's rejection is in error. Claims 37, 42 and 45 all require that the dummy gates mimic the shape of portions of the element isolation regions surrounded by a trench, i.e. the isolation areas defined

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by the first photomask correspond to the dummy gates formed by the second photomask. No combination of APA and Gilbert et al. teaches this feature. Gilbert et al. only teaches a method of forming trenches using active area patterns and dummy area patterns (col. 2, lines 13-67). Nowhere does Gilbert et al. address the formation of gate patterns nor dummy gate patterns. Furthermore, APA does not supply the missing teaching. The APA teaches forming dummy gate patterns and gate patterns, but nowhere teaches that the dummy gates have a shape corresponding to the area defined by a trench.

In other words, the Applicant's admitted prior art discloses dummy gates that are formed simultaneously with the formation of the transistor gates. However, these dummy gates are continuously present on the isolation region (field area). Gilbert et al. only discloses the formation of isolation regions using mesh-like trenches. Therefore, the combination of the Applicant's admitted prior art and Gilbert et al. only disclose that a dummy gate is continuously provided in the mesh-like isolation regions. Therefore, "each of said dummy gate patterns having a reduced area of a respective one of said dummy area patterns" in claim 37 and "said dummy gate having a reduced shape area as compared to a shape area of a corresponding one of said dummy regions" in claim 42 is never taught by the combination of the Applicant's admitted prior art and Gilbert et al.

Also, since the Applicant's admitted prior art discloses a continuous dummy gate while Gilbert et al. does not teach any dummy gate, "forming two or more dummy gates over said element isolation region" in claim 45 is not taught by the combination of the Applicant's admitted prior art and Gilbert et al. Thus, no combination of Gilbert et al. and APA can achieve or render obvious the instant invention.

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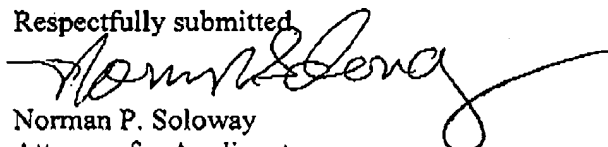
Turning to the rejection of claim 38 as obvious over APA in view of Gilbert et al. in view of Shimomura et al. (U.S. Patent No. 6,140,687), claim 38 depends directly from claim 37, and is patentable for the reasons adduced above vis-à-vis claim 37, as well as for its own features.

The foregoing Amendment makes no claim changes as would require further search by the Examiner. Thus, entry of the foregoing Amendment and allowance of the Application are respectfully requested.

Having dealt with all the objections raised by the Examiner, it is believed that the Application now is in order for allowance. Early and favorable action are respectfully requested.

In the event there are any fee deficiencies or additional fees are payable, please charge them (or credit any overpayment) to our Deposit Account Number 08-1391.

Respectfully submitted


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CERTIFICATE OF TRANSMISSION VIA FACSIMILE

I hereby certify that this correspondence is being sent via facsimile to EXAMINER SAMUEL A. GEBREMARIAM of the United States Patent and Trademark Office at facsimile number (703) 872-9306, on September 16, 2004 from Tucson, Arizona.

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